

AMENDMENTS TO THE CLAIMS

1-14. (Canceled)

15. (Currently amended) ~~The method of Claim 71~~ A method of suppressing or inhibiting the processing of an antigen by an antigen presenting cell, the method comprising contacting the cell with an inhibitor of asparaginyl endopeptidase, wherein the inhibitor of asparaginyl endopeptidase is a competitive inhibitor comprising a peptide selected from the group consisting of Ala-Glu-Asn-Lys-NH (AENK) (SEQ ID NO: 1) and Lys-Asn-Asn-Glu-NH (KNNE) (SEQ ID NO: 2); or

the inhibitor of asparaginyl endopeptidase is a non-competitive inhibitor of asparaginyl endopeptidase which comprises an asparagine residue to which is attached a group capable of reacting with active site cysteine of asparaginyl endopeptidase and forming a covalent complex therewith.

16. (Original) A method according to Claim 15 wherein the inhibitor is a competitive inhibitor.

17. (Canceled)

18. (Previously presented) A method according to Claim 16 wherein the peptide is N and C-terminal blocked.

19. (Previously presented) A method according to Claim 15 wherein the inhibitor is a non-competitive inhibitor.

20. (Previously presented) A method according to Claim 19 wherein the inhibitor has the structure B1-(X)_n-Asn-Q where B1 is any suitable N terminal blocking group; X is an amino acid residue; n is between 1 and 100, Asn is an asparagine residue and Q is a group capable of reacting with the active site cysteine of asparaginyl endopeptidase and forming a covalent complex therewith.

21-37. (Canceled)

38. (Previously presented) A pharmaceutical composition comprising a competitive inhibitor of asparaginyl endopeptidase and a pharmaceutically acceptable carrier,

wherein the competitive inhibitor of asparaginyl endopeptidase comprises an N and C-terminal blocked peptide selected from the group consisting of Ala-Glu-Asn-Lys-NH (AENK) (SEQ ID NO: 1) and Lys-Asn-Asn-Glu-NH (KNNE) (SEQ ID NO: 2).

39. (Canceled)

40. (Canceled)

41. (Original) A pharmaceutical composition according to Claim 38 further comprising an immunosuppressive agent.

42. (Previously presented) A pharmaceutical composition comprising the composition of Claim 52 and a pharmaceutically acceptable carrier.

43-51. (Canceled)

52. (Previously presented) An inhibitor of asparaginyl endopeptidase which has the structure $B1-(X_aX_n)Asn-Q$ wherein B1 is any suitable N terminal blocking group; X_aX_n are the n amino acid residues immediately N terminal to an Asn cleavage site in the invariant chain of Class II MHC molecules; Asn is an asparagine residue; and Q is a group capable of reacting with the active site of asparaginyl endopeptidase and forming a covalent complex therewith.

53. (Previously presented) An inhibitor according to Claim 52 wherein the number of amino acid residues in (X_aX_n) is between 1 and 25.

54. (Original) An inhibitor according to Claim 53 which is any of B1-Ser-Gln-Asn-Q; B1-Leu-Glu-Asn-Q; B1-Leu-Gln-Asn-Q; B1-Pro-Glu-Asn-Q; B1-Leu-Lys-Asn-Q; B1-Gln-Asn-Q; B1-Glu-Asn-Q; B1-Asp-Glu-Asn-Q; B1-Asn-Gly-Asn-Q; B1-Phe-Pro-Asn-Q; B1-Val-Pro-Asn-Q; and B1-His-His-Asn-Q.

55. (Canceled)

56. (Previously presented) A composition comprising an inhibitor of asparaginyl endopeptidase and an inhibitor of cathepsin S, wherein

the inhibitor of asparaginyl endopeptidase is a competitive inhibitor comprising peptide selected from the group consisting of Ala-Glu-Asn-Lys-NH (AENK) (SEQ ID NO: 1) and Lys-Asn-Asn-Glu-NH (KNNE) (SEQ ID NO: 2); or

the inhibitor of asparaginyl endopeptidase is a non-competitive inhibitor of asparaginyl endopeptidase which comprises an asparagine residue to which is attached a group capable of reacting with active site cysteine of asparaginyl endopeptidase and forming a covalent complex therewith.

57-59. (Canceled)

60. **(Previously presented)** A method according to Claim 15 wherein the antigen presenting cell is in a tissue or organ, for transplantation into a patient.

61. **(Previously presented)** An inhibitor according to Claim 53 wherein the number of amino acid residues in (X_aX_n) is between 2 and 10.

62-68. **(Canceled)**

69. **(Previously presented)** A pharmaceutical composition comprising a non-competitive inhibitor of asparaginyl endopeptidase which comprises an asparagine residue to which is attached a group capable of reacting with active site cysteine of asparaginyl endopeptidase and forming a covalent complex therewith, and a pharmaceutically acceptable carrier.

70. **(Canceled)**

71. **(Canceled)**

72. **(Currently amended)** ~~The method of claim 71~~ A method of suppressing or inhibiting the processing of an antigen by an antigen presenting cell, the method comprising contacting the cell with an inhibitor of asparaginyl endopeptidase, wherein the inhibitor of asparaginyl endopeptidase has the structure $B1-(X_aX_n)Asn-Q$ wherein B1 is any suitable N terminal blocking group; X_aX_n are the n amino acid residues immediately N terminal to an Asn cleavage site in the invariant chain of Class II MHC molecules; Asn is an asparagine residue; and Q is a group capable of reacting with the active site of asparaginyl endopeptidase and forming a covalent complex therewith.

73. **(Previously presented)** The method of claim 15, wherein the inhibitor of asparaginyl endopeptidase is said competitive inhibitor.

74. **(Currently amended)** The method of claim ~~71~~ 72, wherein the method further comprises contacting the cell with an inhibitor of cathepsin S.